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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/046,366

01/14/2002

Anthony Vetro

1572

7590

02/10/2006

Patent Department

Mitsubishi Electric Research Laboratories, Inc.

201 Broadway

Cambridge, MA 02139

EXAMINER

TORRES, JUAN A

ART UNIT

PAPER NUMBER

2631

DATE MAILED: 02/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/046,366

Applicant(s)

VETRO ET AL.

Examiner

Juan A. Torres

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

### ***Priority***

The later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application). The disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994).

The disclosure of the prior-filed application, Application No. 09/853394, fails to provide adequate support or enablement in the manner provided by the first paragraph of 35 U.S.C. 112 for one or more claims of this application. Application 09/853394 doesn't provide support for the partially encoding of reduce resolution frames of independent claim 1; and the partial encoder of independent claim 8 (see figure 17 and pages 41-43 of the Application, and the previous filed application Serial No. 09/853394).

### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character

- a) "230" has been used to designate both  $Q_2$  and an adder (figures 2 and 3);
- b) "240" has been used to designate both VLC and  $Q_2$  (figures 2 and 3);

- c) "260" has been used to designate both  $Q_2^{-1}$  and IDCT (in figure 3);
- d) "1161" has been used to designate both input 1160 and input 1170 (figure 11A);
- e) "1199" has been used to designate both all figure 11B and input of "1161" (in figure 11B);
- f) "1180" has been used to designate both block VLC and also output of block VLC (figure 11B);
- g) "1601" has been used to designate both the first block c is called 1601 and 1602 at the same time, and block C is called also "1601" (figure 16); and
- h) "1611" has been used to designate both from C to E and A (figure 16).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include, at least, the following reference sign(s) mentioned in the description:

- a) Figure 3: "321" (see page 4 line 17);
- b) Figure 3: "330" (see page 4 line 18);
- c) Figure 3: "332" (see page 4 line 18);
- d) Figure 3: "390" (see page 5 line 6; see also objections to the specification);
- e) Figure 3: "381" (see page 5 line 5); "380" (see page 5 line 4);
- f) Figure 3: "365" (see page 5 line 4);
- g) Figure 3: "370" (see page 5 line 2);
- h) Figure 3: "360" (see page 5 line 2);
- i) Figure 3: "350" (see page 4 line 23);

- j) Figure 3: "340" (see page 4 line 22);
- k) Figure 9: "911" (see page 20 line 2; and page 20 line 5);
- l) Figure 9: "931" (see page 20 line 6);
- m) Figure 11A "1101" (see page 22 line 23); and
- n) Figure 11B "1102" (see page 23 line 8).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

- a) Figure 3: "301";
- b) Figure 4: "451";
- c) Figures 11A and 11B: "1120"; and
- d) Figure 16 "1620".

The drawings are objected to because:

- a) Figure 11B: block "1181" shall be "1191" (see figure 11A);
- b) Figure 11B: block "1195" shall be "1194" (see figure 11A);
- c) Figure 11B: output of VLC shall be "1102";
- d) Figure 17: "1700" should be outside block "1704".

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "**method** for reduced spatial resolution transcoding of a compressed bitstream of a sequence of frames of a video signal, comprising:

decoding the frames including

variable length decoding of the bitstream to yield an output comprising full-resolution motion vectors and quantized DCT coefficients for each block in each frame;

inverse quantizing the quantized DCT coefficients for each block in each frame;

applying an inverse DCT to the inverse quantized blocks of the frames;

and

motion compensating with full resolution motion vectors of the stored decoded frames, including

adding a full resolution motion compensated prediction of a previous decoded frame to the current frame;

mapping the full-resolution motion vectors to the reduced resolution motion vectors from the variable length decoded frames.

storing the decoded frames in a first frame buffer

down-sampling the decoded frames to a reduced resolution;

storing the reduced resolution frames in a second frame buffer; and

partially encoding the reduced resolution frames to produce a reduced resolution compressed bitstream of the video, including

motion compensating with reduced resolution motion vectors of the stored reduced resolution frames, including

subtracting a reduced resolution motion compensated prediction of  
a previous reduced resolution frame from the current reduced  
resolution frame;

applying a DCT to the motion compensated difference of the reduced  
resolution frames;

quantizing DCT blocks of the frames; and variable length coding the  
quantized blocks of the frames;

estimating the reduced resolution motion vectors from the reduced  
resolution frames,

must be shown or the feature(s) canceled from the claim(s). No new matter should be  
entered. Method is understood as a flow chart that describes a process.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in  
reply to the Office action to avoid abandonment of the application. Any amended  
replacement drawing sheet should include all of the figures appearing on the immediate  
prior version of the sheet, even if only one figure is being amended. The figure or figure  
number of an amended drawing should not be labeled as "amended." If a drawing figure  
is to be canceled, the appropriate figure must be removed from the replacement sheet,  
and where necessary, the remaining figures must be renumbered and appropriate  
changes made to the brief description of the several views of the drawings for  
consistency. Additional replacement sheets may be necessary to show the renumbering  
of the remaining figures. Each drawing sheet submitted after the filing date of an  
application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

The disclosure is objected to because of the following informalities:

a) Page 3 line 23 the recitation "Figure 2 shows a first example method 200" is improper because figure 2 shows an apparatus; it is suggested to be changed to "Figure 2 shows a first example apparatus 200".

b) Page 4 line 13 the recitation "Figure 3 shows a second example method 300" is improper because figure 3 shows an apparatus; it is suggested to be changed to "Figure 3 shows a second example apparatus 300".

c) Page 4 line 18 the recitation "332" is improper because figure 2 shows an apparatus; it is suggested to be changed to "321" (see figure 3).

d) Page 5 line 5 the recitation "290" is improper because figure 2 shows an apparatus; it is suggested to be changed to "390" (see figure 3).

e) Page 6 line 23 the recitation "Figure 4 shows the details of a method 400" is improper because figure 4 shows an apparatus; it is suggested to be changed to "Figure 4 shows the details of an apparatus 400".

f) Page 7 line 12 the recitation "Figure 5 shows the details of an open-loop method 500" is improper because figure 5 shows an apparatus; it is suggested to be changed to "Figure 5 shows the details of an open-loop apparatus 500".



g) Page 11 line 11 the recitation "Figure 11a" is improper (see Figure 11A); it is suggested to be changed to "Figure 11A".

h) Page 11 line 14 the recitation "Figure 11b" is improper (see Figure 11B); it is suggested to be changed to "Figure 11B".

i) Page 13 line 15 the recitation "Figures 10 and 11a-b" is improper (see Figures 11A-B); it is suggested to be changed to "Figures 10 and 11A-B".

j) Page 14 line 5 the recitation "Figure 11a" is improper (see Figure 11A); it is suggested to be changed to "Figure 11A".

k) Page 17 line 7 the recitation "802" is improper (see Figure 8); it is suggested to be changed to "703".

l) Page 23 line 5 the recitation "1141" is improper (see Figure 11A); it is suggested to be changed to "1161".

m) Page 23 line 20 the recitation "1181" is improper (see Figure 11A); it is suggested to be changed to "1191".

n) Page 24 line 4 the recitation "Figure 11b" is improper (see Figure 11B); it is suggested to be changed to "Figure 11B".

o) Page 24 line 5 the recitation "Figure 11a" is improper (see Figure 11A); it is suggested to be changed to "Figure 11A".

p) Page 26 line 7 the recitation "Figure 11300" is improper (see Figure 13); it is suggested to be changed to "Figure 13".

q) Page 32 line 12 the recitation "Figure 11" is improper (see Figure 11A); it is suggested to be changed to "Figure 11A".

r) Page 33 line 21 the recitation "Figure 11a" is improper (see Figure 11A); it is suggested to be changed to "Figure 11A".

Appropriate correction is required.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-8 are rejected under 35 U.S.C. 102(a) as being anticipated by admitted prior art.

As per claim 1, admitted prior art discloses a method for reduced spatial resolution transcoding of a compressed bitstream of a sequence of frames of a video signal, comprising decoding the frames (figure 4 block 110; page 6 line 23 to page 7 line 10; and 17 line 12 to page 18 line 16); storing the decoded frames in a first frame buffer (figure 4 block frame store in the decoder; page 6 line 23 to page 7 line 10; and 17 line 12 to page 18 line 16); down-sampling the decoded frames to a reduced resolution (figure 4 block 410; page 6 line 23 to page 7 line 10; and 17 line 12 to page 18 line 16); storing the reduced resolution frames in a second frame buffer (figure 4 block 490; page

6 line 23 to page 7 line 10; and 17 line 12 to page 18 line 16); and partially encoding the reduced resolution frames to produce a reduced resolution compressed bitstream of the video (page 3 lines 14-16; and figure 4 block 120; page 6 line 23 to page 7 line 10; and 17 line 12 to page 18 line 16).

As per claim 2, admitted prior art discloses claim 1. Admitted prior art also discloses that the decoding further comprises variable length decoding of the bitstream to yield an output comprising full-resolution motion vectors and quantized DCT coefficients for each block in each frame (figure 4 block VLD; page 6 line 23 to page 7 line 10; and 17 line 12 to page 18 line 16); inverse quantizing the quantized DCT coefficients for each block in each frame (figure 4 block  $(Q_1)^{-1}$ ; page 6 line 23 to page 7 line 10; and 17 line 12 to page 18 line 16); applying an inverse DCT to the inverse quantized blocks of the frames (figure 4 block IDCT after  $(Q_1)^{-1}$ ; page 6 line 23 to page 7 line 10; and 17 line 12 to page 18 line 16); and motion compensating with full resolution motion vectors of the stored decoded frames (figure 4 block 420; page 6 line 23 to page 7 line 10; and 17 line 12 to page 18 line 16).

As per claim 3, admitted prior art discloses claim 1. Admitted prior art also discloses that the partial encoding further comprises motion compensating with reduced resolution motion vectors of the stored reduced resolution frames (figure 4 block 430 and 431; page 6 line 23 to page 7 line 10; and 17 line 12 to page 18 line 16); applying a DCT to the motion compensated difference of the reduced resolution frames (figure 4 block 440; page 6 line 23 to page 7 line 10; and 17 line 12 to page 18 line 16); quantizing DCT blocks of the frames (figure 4 block  $Q_2$ ; page 6 line 23 to page 7 line 10;

and 17 line 12 to page 18 line 16); and variable length coding the quantized blocks of the frames (figure 4 block VLC; page 6 line 23 to page 7 line 10; and 17 line 12 to page 18 line 16).

As per claim 4, admitted prior art discloses claim 2. Admitted prior art also discloses that the motion compensating during the decoding further comprises adding a full resolution motion compensated prediction of a previous decoded frame to the current frame (figure 4 blocks with inputs IDCT and MC in block 110; page 6 line 23 to page 7 line 10; and 17 line 12 to page 18 line 16).

As per claim 5, admitted prior art discloses claim 3. Admitted prior art also discloses that the motion compensating during the partial encoding further comprises subtracting a reduced resolution motion compensated prediction of a previous reduced resolution frame from the current reduced resolution frame (figure 4 blocks 490, 403 and 430; page 6 line 23 to page 7 line 10; and 17 line 12 to page 18 line 16).

As per claim 6, admitted prior art discloses claim 3. Admitted prior art also discloses estimating the reduced resolution motion vectors from the reduced resolution frames (figure 4 block 431; page 6 line 23 to page 7 line 10; and 17 line 12 to page 18 line 16).

As per claim 7, admitted prior art discloses claim 2. Admitted prior art also discloses mapping the full-resolution motion vectors to the reduced resolution motion vectors from the variable length decoded frames (page 3 lines 14-16; and figures 5-6 block 560; page 7 line 12 to page 9 line 10).

As per claim 8, admitted prior art discloses a decoder with motion compensation using full resolution motion vectors stored in a first frame buffer to generate partial decoded frames from the compressed bitstream (figure 4 block 110; page 6 line 23 to page 7 line 10; and 17 line 12 to page 18 line 16); a down-conversion block to down-sample the decoded frames to reduced resolution frames (figure 4 block 410; page 6 line 23 to page 7 line 10; and 17 line 12 to page 18 line 16); and a partial encoder with motion compensation using reduced resolution motion vectors stored in a second frame buffer to generate a reduced spatial resolution compressed bitstream of the video (page 3 lines 14-16; and figure 4 block 120; page 6 line 23 to page 7 line 10; and 17 line 12 to page 18 line 16).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 20020126752 A1) in view of admitted prior art.

NOTE: Kim qualifies as prior art, because the effective filing date of the present invention is 01/14/02 (see above under section priority)

As per claim 1, Kim discloses a method for reduced spatial resolution transcoding of a compressed bitstream of a sequence of frames of a video signal, comprising decoding the frames (figure 3 block 103; paragraphs [0084]-[0090]; and

[0151]-[0191]); storing the decoded frames in a first frame buffer (figure 3 block 15; paragraphs [0084]-[0090]; and [0151]-[0191]); down-sampling the decoded frames to a reduced resolution (figure 3 block 300; paragraphs [0047]-[0049]; [0084]-[0090];[0092]-[0151]; and [0151]-[0191]); storing the reduced resolution frames in a second frame buffer (figure 3 block 103; paragraphs [0084]-[0090]; and [0151]-[0191]); and encoding the reduced resolution frames to produce a reduced resolution compressed bitstream of the video (figure 3 block 202; paragraphs [0084]-[0090]; and [0151]-[0191]). Kim doesn't specifically disclose partially encoding. Admitted prior art discloses that "In practice, full decoding and full encoding in a transcoder is not done due to the high complexity of encoding the decoded bitstream" (page 3 lines 14-16). Kim and admitted prior art teachings are analogous art because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the partial encoder disclosed by admitted prior art with the video transcoder disclosed by Kim. The suggestion/motivation for doing so would have been to reduce the complexity of the encoder (Admitted prior art page 3 lines 14-16). Therefore, it would have been obvious to combine Kim with admitted prior art to obtain the invention as specified in claim 1.

As per claim 2, Kim and admitted prior art disclose claim 1. Kim also discloses that the decoding further comprises variable length decoding of the bitstream to yield an output comprising full-resolution motion vectors and quantized DCT coefficients for each block in each frame (figure 3 block 11; paragraphs [0084]-[0090]; and [0151]-[0191]); inverse quantizing the quantized DCT coefficients for each block in each frame (figure 3

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block 12; paragraphs [0084]-[0090]; and [0151]-[0191]); applying an inverse DCT to the inverse quantized blocks of the frames (figure 3 block 13; paragraphs [0084]-[0090]; and [0151]-[0191]); and motion compensating with full resolution motion vectors of the stored decoded frames (figure 3 block 16; paragraphs [0084]-[0090]; and [0151]-[0191]). Kim and admitted prior art teachings are analogous art because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the partial encoder disclosed by admitted prior art with the video transcoder disclosed by Kim. The suggestion/motivation for doing so would have been to reduce the complexity of the encoder (Admitted prior art page 3 lines 14-16). Therefore, it would have been obvious to combine Kim with admitted prior art to obtain the invention as specified in claim 2.

As per claim 3, Kim and admitted prior art disclose claim 1. Kim also discloses that the partial encoding further comprises motion compensating with reduced resolution motion vectors of the stored reduced resolution frames (figure 3 block 39; paragraphs [0084]-[0090]; and [0151]-[0191]); applying a DCT to the motion compensated difference of the reduced resolution frames (figure 3 block 32; paragraphs [0084]-[0090]; and [0151]-[0191]); quantizing DCT blocks of the frames (figure 3 block 33; paragraphs [0084]-[0090]; and [0151]-[0191]); and variable length coding the quantized blocks of the frames (figure 3 block 34; paragraphs [0084]-[0090]; and [0151]-[0191]). Kim and admitted prior art teachings are analogous art because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the partial encoder disclosed by admitted

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prior art with the video transcoder disclosed by Kim. The suggestion/motivation for doing so would have been to reduce the complexity of the encoder (Admitted prior art page 3 lines 14-16). Therefore, it would have been obvious to combine Kim with admitted prior art to obtain the invention as specified in claim 3.

As per claim 4, Kim and admitted prior art disclose claim 2. Kim also discloses that the motion compensating during the decoding further comprises adding a full resolution motion compensated prediction of a previous decoded frame to the current frame (figure 3 block 14; paragraphs [0084]-[0090]; and [0151]-[0191]). Kim and admitted prior art teachings are analogous art because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the partial encoder disclosed by admitted prior art with the video transcoder disclosed by Kim. The suggestion/motivation for doing so would have been to reduce the complexity of the encoder (Admitted prior art page 3 lines 14-16). Therefore, it would have been obvious to combine Kim with admitted prior art to obtain the invention as specified in claim 4.

As per claim 5, Kim and admitted prior art disclose claim 3. Kim also discloses that the motion compensating during the partial encoding further comprises subtracting a reduced resolution motion compensated prediction of a previous reduced resolution frame from the current reduced resolution frame (figure 3 block 31; paragraphs [0084]-[0090]; and [0151]-[0191]). Kim and admitted prior art teachings are analogous art because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the partial encoder



disclosed by admitted prior art with the video transcoder disclosed by Kim. The suggestion/motivation for doing so would have been to reduce the complexity of the encoder (Admitted prior art page 3 lines 14-16). Therefore, it would have been obvious to combine Kim with admitted prior art to obtain the invention as specified in claim 5.

As per claim 6, Kim and admitted prior art disclose claim 3. Kim also discloses estimating the reduced resolution motion vectors from the reduced resolution frames (figure 3 block 50; paragraphs [0084]-[0090]; and [0151]-[0191]). Kim and admitted prior art teachings are analogous art because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the partial encoder disclosed by admitted prior art with the video transcoder disclosed by Kim. The suggestion/motivation for doing so would have been to reduce the complexity of the encoder (Admitted prior art page 3 lines 14-16). Therefore, it would have been obvious to combine Kim with admitted prior art to obtain the invention as specified in claim 6.

As per claim 7, admitted prior art and Kim discloses claim 2. Kim also discloses mapping the full-resolution motion vectors to the reduced resolution motion vectors from the variable length decoded frames (figures 4-7; paragraphs [0091]-[0150]). Kim and admitted prior art teachings are analogous art because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the partial encoder disclosed by admitted prior art with the video transcoder disclosed by Kim. The suggestion/motivation for doing so would have been to reduce the complexity of the encoder (Admitted prior art page 3

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lines 14-16). Therefore, it would have been obvious to combine Kim with admitted prior art to obtain the invention as specified in claim 7.

As per claim 8, Kim discloses a decoder with motion compensation using full resolution motion vectors stored in a first frame buffer to generate partial decoded frames from the compressed bitstream (figure 3 block 103; paragraphs [0084]-[0090]; and [0151]-[0191]); a down-conversion block to down-sample the decoded frames to reduced resolution frames (figure 3 block 300; paragraphs [0047]-[0049]; [0084]-[0090];[0092]-[0151]; and [0151]-[0191]); and an encoder with motion compensation using reduced resolution motion vectors stored in a second frame buffer to generate a reduced spatial resolution compressed bitstream of the video (figure 3 block 202; paragraphs [0084]-[0090]; and [0151]-[0191]). Kim doesn't specifically disclose partially encoding. Admitted prior art discloses that "In practice, full decoding and full encoding in a transcoder is not done due to the high complexity of encoding the decoded bitstream" (page 3 lines 14-16). Kim and admitted prior art teachings are analogous art because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the partial encoder disclosed by admitted prior art with the video transcoder disclosed by Kim. The suggestion/motivation for doing so would have been to reduce the complexity of the encoder (Admitted prior art page 3 lines 14-16). Therefore, it would have been obvious to combine Kim with admitted prior art to obtain the invention as specified in claim 8.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wells (US 6310915 B1) discloses a video transcoder with bitstream look ahead for rate control and statistical multiplexing using partial encoding (column 6 lines 62-67). Kim (US 20020094030 A1) discloses Apparatus and method of transcoding image data in digital TV similar to the system discloses in Kim (US 20020126752 A1) (see above).

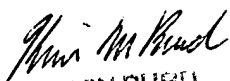
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Juan Alberto Torres  
02-06-2006

  
KEVIN BURD  
PRIMARY EXAMINER